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EXAMINER

MILLER, EDWARD A

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 15

Application Number: 09/664,130  
Filing Date: September 18, 2000  
Appellant(s): WILLIAMS ET AL.

**MAILED**

JUL 02 2003

\_\_\_\_\_  
Laurence C. Begin  
For Appellant

**GROUP 3600**

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed April 21, 2003.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

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**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's statement that the claims stand together is not the language of the rule. The claims stand or fall together in view of appellant's statement and since there are no arguments for the separate patentability of any dependent claim by number; all the claims are argued together. Only on Brief page 3, penultimate line, are independent claims 1 and 16 mentioned separately.

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

3,964,256	Plantif et al.	6-1976
3,986,908	Grebert et al.	10-1976

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4,309,229	Hamilton	1-1982
5,538,568	Taylor et al.	7/1996
5,656,793	Ochi et al.	8/1997

**(10) *Grounds of Rejection***

The following ground of rejection is applicable to the appealed claims:

Claims 1-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grebert et al. in view of Plantif et al. and Hamilton, and further in view of Ochi et al., Taylor et al.

Grebert et al. teach air bag compositions, where the main oxidizer is, for example, potassium perchlorate, and which composition may include additives and a binder of silicone rubber. See col. 1, lines 5-12, col. 2, lines 9-30, and col. 3, lines 1-8 for the "Composition B" with ranges of ingredients including silicone resin binder-fuel, perchlorate oxidizer and minor amounts of additives, and lines 50-58 for a specific example. Although coolants are not taught, Plantif et al. teach that the gases from such compositions may be hotter than desired, and suggest the use of outboard coolants, which may include carbonates, among others. Both of said patents are assigned to SNPE, and deal with the same problems - those of providing air bag gas generators and compositions therefore. Hamilton further teaches the use of coolants in air bag compositions with a perchlorate main oxidizer. In Hamilton, the Figure shows graphically that the coolant is a known optional ingredient, and that it may optionally be mixed with the gas generator composition, or it may be in the gas stream following gas generation, e.g., it may be outboard to follow the gas generation. This is further taught at col. 1, lines 37-42, which shows one aspect of the known problems with excess heat in air bag safety restraint devices. In col. 2, lines 12-15, oxidizers with the problem are metal perchlorates, e.g. potassium. Note also col. 2, lines 25-30, where the coolant may be decomposed within the gas generator within the gas generating mixture, or subsequently, to decompose

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endothermically and cool the hot gas afterwards. Thus, the choice of adding the coolant to the initially gas generator composition is a known option to one of ordinary skill in the art. Plaintiff et al. show the problem is known with the specific silicone/perchlorate gas generating composition, and thus it would have been clearly obvious to add these well known coolants for the expected result. Variation of the specific type and amount of coolant, as well as other notoriously well known ingredients, for example, within the parameters taught, to obtain a suitable cooling result, would have been obvious to the person of ordinary skill in the subject art. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980), *In re Aller*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955). Since the claims stand or fall together, Taylor et al. and Ochi et al. are primarily supplemental, further teaching similar broad compositions and certain known ingredients, as well as further showing art teachings on variation of parameters.

### **(11) Response to Argument**

Applicants' arguments are essentially that the references cannot be combined, whereby the combination is improper, that the references teach away from the combination, and that the applicants' compositions produce results not shown by the prior art.

It is respectfully pointed out that it is the teachings of the prior art that are combined for what they teach, not the prior art per se. The modifications are those of result effective parameters as set forth in the above mentioned citations. Arguments of other ingredients are not well taken, since the claims are all of the "comprising" scope, and thus do not exclude any such ingredients. That is to say, that applicants' claims are equally subject to the deficiencies that applicants point out for the references, as they permit the inclusion of the ingredients of the prior art, generally.

As to the argument at the top of Brief page 4, Grebert et al. does teach that the gases should be non-toxic. This is as it should be, and as applicants and, in fact, all practitioners in the art desire, that their customers, e.g., car occupants not be subject to toxic gases. Applicants argue about the amount of silicone binder being less than the case when cellulose acetate is the binder. As to carbonate coolant not being desirable in Grebert et al., due to carbon is not persuasive. Plantif et al. teach the use of various [alkali metal and alkaline earth metal] carbonate, oxalate, and bicarbonate coolants at col. 3, lines 23-26. In Hamilton, the coolant is preferably a carbonate, col. 2, lines 26-32. It must be observed that the carbon in a metal carbonate decomposes to form metal oxide and carbon dioxide. In other words, appellants' objection to adding carbon lacks scientific foundation, as the carbon of the coolant is already oxidized, or mostly so in the case of oxalate. Further, Plantif et al. teach that the SNPE silicone gas generating composition may generate excess oxygen at col. 2, lines 23-27. The problem that Grebert et al. discusses is, obviously a translation difficulty from the French, is not any additive that is carbon containing, but an additive that is contained in the composition and is elemental carbon. This is taught to provide smoother burning at col. 5, lines 1-6. Manifestly, when a carbonate is used as the coolant, the carbon is already oxidizer, and the problem and objection raised by appellants is nonexistent. As to small amounts of such ingredients, aluminium fuel and carbon combustion catalyst, there is no limitation in applicants broad, "comprising" scope claims to preclude such in any event. Any difficulty in this regard, is identically experienced by appellants. In an nutshell, then, Grebert et al. does not teach away from the combination, while Plantif et al. teach that the identical SNPE silicone binder, perchlorate oxidizer gas generating compositions for air bags, may optionally be cooled via endothermic cooling.

Considering Ochi et al., this supplemental reference further relates to a number of features and aspects of the claims, the arguments and the prior art. In the first instant, appellants object to

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the major amount of HDCA in Ochi et al. While it is true that a major amount of such fuel is used therein, the fundamental meaning of the appellants' scope term, "comprising" is that additional ingredients may be added even in major amounts. From MPEP 2111.03, the transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves "the claim open for the inclusion of unspecified ingredients even in major amounts"). Thus, appellants' claims are subject to containing such ingredients and this does not distinguish over Ochi et al. Further, Ochi et al. teach at col. 5, lines 18-40, various facts about coolants. These are not opinions, they are facts. Coolants cool endothermically; that is a matter of plain chemistry. The motivation to cool the SNPE composition comes from SNPE, Pantif et al., not from Ochi et al. However, coolants are a notoriously well known variable that one of ordinary skill in the art may apply as desired. Among the variables are the metals and construction of the gas generating apparatus, as well as the presence or absence and the length of ducts, and variation in the materials of the air bag itself. All these relate to different degrees to which cooling may, or may not be desired, all as is notoriously well known to one of ordinary skill in the art. Further, although in some instances as in Hamilton, water vapor may not be desired, this is also an art recognized choice to the ordinarily skilled artisan. Also note, as to Ochi et al., col. 5, lines 42-52, there is a clear teaching that for that composition, one should use at least 3% up to 30% by weight of the coolant to provide suitable effectiveness. Looking to appellants' claim 1, one notes that there is no limitation on the amount of coolant. Even 0.5% coolant is within the limits of the instant claims.

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Thus, for appellant to urge that the prior art compositions will have temperatures that are too high, as on page 7 of the instant Brief, in excess of 2000 degrees C, is not well taken. There is single no magic elixir or bullet that applies to all situations. There is no limitation in representative broad claim 1, e.g., to require any specific temperature be obtained, either via specifying in detail the amounts and specific detailed ingredients that are to be used, or by any functional language of any specific result, or by even the use of scope terminology that is less broad than "comprising", whereby certain results arguably might be required in the broad claims. Simply, it is submitted that appellants' claims do not define over the prior art teachings. "[C]laims are unpatentable when they are so broad as to read on obvious subject matter even though they likewise read on non-obvious subject matter." *In re Mraz*, 173 USPQ 25 (CCPA 1972).

For the above reasons, it is respectfully submitted that the rejection should be sustained.

Respectfully submitted,



EDWARD A. MILLER  
PRIMARY EXAMINER

Edward Miller  
June 30, 2003

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